

white paper

Unified communications – business gets personal and dynamic

Mobility and unified communications (UC) will change the way enterprises interact. User applications that support mobility, multimedia and global reach will enable the kind of UC never experienced before. New opportunities will open up for mobile-service providers during the next couple of years. They will get additional revenue from new enterprise services, and an opportunity to provide end users with content and applications as well as enhanced service level agreements (SLAs).

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1 Executive summary

New developments within internet communications have created fresh opportunities for enterprises and service providers in the unified communications (UC) area. Business users are increasingly adopting an array of personal internet communication services owing to their simplicity and efficiency. This has created new demands in terms of the enterprise services required. Enterprises need cost-efficient, scalable and secure services with quality of service (QoS) support.

The IP Multimedia Subsystem (IMS) standard and its deployment have opened up the possibility of providing mobile multimedia services to enterprises. Mobility and UC offered as operator-managed services will provide a range of benefits for enterprises and business professionals including increased efficiency, the handling of global daily operations and the positive environmental impact of a reduced need for business travel.

Service providers will have an opportunity

to supply cost-effective, scalable and secure enterprise services with QoS support. Key enablers for this evolution include further adoption of web technologies, mobile devices, mobile applications and IMS-based infrastructures. The operator-managed services approach will enable service providers to add additional revenue, value and differentiation to their offerings.

The key services required on top of traditional UC include: mobility for all users; flexible security to benefit different groups such as customers and partners as well as business users working remotely; a policy-controlled network; and support for an active application developer community. Service providers that include these features in their roadmaps will provide a new generation of UC users with a rich and productive communications experience. Enterprises gain cost improvements by avoiding investments in infrastructure for UC services, and benefit from simply using operator-managed services.

2 What is unified communications?

The term “UC” previously described an array of services such as one voicemail box, one personal number for the end user, and the ability to bridge different services: for example, going from voice to leaving a message, and then moving on to making a call.

But today, UC is much more than this. It has evolved to include: voice; video; messaging; and instant communications from multimedia devices. Additionally UC supports consolidated directory, routing and management of communications across applications. Mobility has now become a key feature as most users expect to be reachable all the time on their mobile phones. The old

concept of a consistent contact management service from unified messaging is still very important, but needs to be supported in the context of mobile multimedia services. This is something that most vendors fail to address. This does not mean “unifying” all communications services and putting them into one device. Transparency, in addition to simplicity, makes UC services successful. Business professionals expect UC to operate seamlessly, without the underlying infrastructure being evident. It should appear simple to use, without the need for special controls. The key words to remember are “simplicity” and “excellent user experience.”

2.1 Social trends

Time and distance no longer stop businesses from operating. Business professionals are mobile, no longer working from a single location, or during fixed office hours. The easy availability of the internet enables 24/7 connectivity, and has given rise to new lifestyles and forms of behavior. Business professionals are embracing flexibility. For example, they can choose to work on their own terms, produce and share information,

participate in teams or communities, get presence and status updates, and have immediate access to the information they need via multimedia devices.

An increasing number of these users are becoming accustomed to having mobile phones and wireless laptop computers for both business and personal use. This has resulted in a demand for UC services that meet both their personal and professional

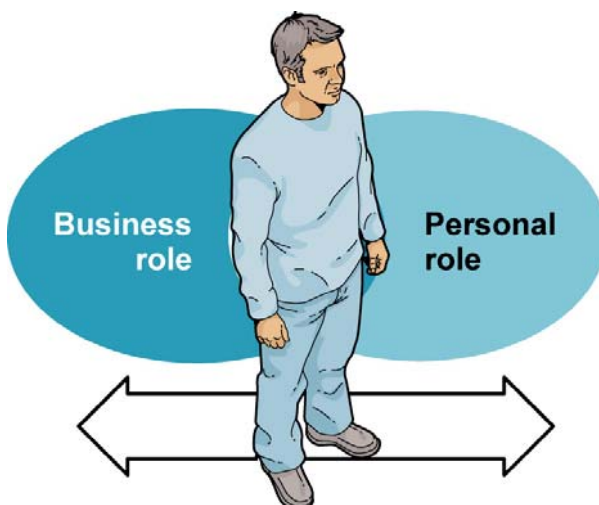


Figure 1) Services must meet business professional's needs in both their business professional and personal roles

requirements, and that also support enterprise needs such as security and QoS.

The explosion of popular internet communication services has also resulted in business professional users adopting many more services than before.

Today, besides voice services, business professionals benefit from: conference, chat, video call, messaging, post, publish, search, share and update status. As a result, new requirements have been placed on UC services, and these requirements can be met most simply through the use of operator-managed services.

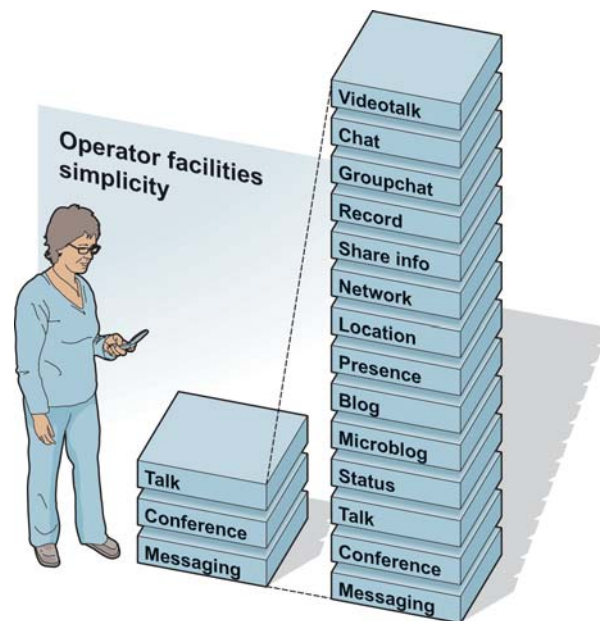


Figure 2) Communication trends

2.2 The unified communications environment today

Globalization, 24/7 operations and the demand for increased business efficiency have created the need for on-demand services and dynamic organizations that can adapt easily. Many enterprises have discovered the value-added benefits derived from data applications (such as e-mail, customer relationship management (CRM), enterprise resource planning (ERP) and vertical applications) accessible from converged mobile devices. Current UC functionality is provided by these sources:

- ◆ Managed collaborative software services
- ◆ Mobile and telecom service providers
- ◆ PBX equipment services as a part of enterprise networks.

Service providers have traditionally been the suppliers of connectivity services for business users, whereas the UC services have been provided by the enterprise network. With new operator-managed mobile UC services, service providers will have an opportunity to supply them too. The most important services to provide are the ones that offer the biggest efficiency benefits to enterprise professionals by supporting integrated communications from a business process point of view.

2.3 Mobility and unified communications services

The availability of internet-generation communications services has resulted in personal internet services increasingly being used in enterprise networks. These services are usually free, open, non-secure and self-managed. There are several reasons for the adoption of these services, including the fact that they are: easy to use; work inside the firewall; and do not require centralized IT deployment. The mobile phone is often used as the main communications device since mobility has become key.

The drawback for an enterprise is that sensitive information and communications materials are being handled on open public networks. This presents an opportunity for service providers to assist enterprises by introducing new ways for them to improve their operations and become more dynamic.

Mobility and UC services are key in meeting the business needs of a dynamic enterprise. The mobile-service provider is uniquely positioned to deliver these services due to mobility, coverage, capacity, security and real-time QoS support, while also

allowing other open services to be used to improve business processes.

In this context, UC is a service that business professionals employ for *all their communications needs* within the enterprise and with customers. This service is designed for use with a secure and operator-managed network where *mobility, presence* and *availability* are key features.

A dynamic enterprise is:

- people-centric; a business does not communicate – people do. When those running an enterprise understand how to use this ability to the enterprise's advantage, it becomes a people-centric organization.
- community-oriented and organized in terms of the business processes demanded and certain ad hoc needs.

Dynamic UC can be used to its full advantage, improving the overall efficiency of an organization by streamlining business processes.

3 Unified communications: the benefits

3.1 Business-professional benefits

Business professionals have become accustomed to using internet services in addition to enterprise services. UC provides business users with the simplicity and convenience of internet services to:

- access enterprise data;
- manage customers and partners, and communicate with other employees;
- work on their terms, whenever and wherever it is convenient for them.

Other benefits include the possibility to enjoy a context-based communication environment (for example, employing video conferencing when working from home), and establishing more sustainable work practices (such as tele-working, which reduces the need for travel).

3.2 Enterprise benefits

Enterprises are faced with the challenge of offering high-quality customer services and creating new business opportunities while cutting costs and managing employees. Today, companies' IT departments are mainly focused on managing their infrastructure, security, employees and applications. The new approach to UC will enable enterprises to:

- focus on strategic business initiatives;
- allow users to experience the value of the services as they become more efficient and lead to profitable business;

- use communication services for interaction between business units and with partners.

Enterprises will manage all communication services through a portal. Dynamic business processes can be developed using UC services. They can develop applications or adopt their partners' applications for use in the operator-managed network when necessary. An additional benefit of integrated UC services is the reduced need for business travel, helping to lower expenses while reducing the impact on the environment.

3.3 Service-provider benefits

Wireless telecom operators can further develop their businesses by expanding their managed enterprise service offerings. An operator-managed-enterprise-services model focusing on services will maximize business value by enabling multiple revenue streams. It will:

- provide services that an enterprise and its partners host today, creating additional monthly revenue;
- provide application development and

- hosting space for application developers, giving the operator revenue through licenses granted to these developers;
- create a shift towards a network-centric view, increasing the demand for more services, and thereby boosting monthly revenue.

Enhancing the SLAs of the enterprises will benefit service providers. Maximizing the user experience by enabling services for both business and personal use (all with global

mobility) will boost customer loyalty and increase profitable “sticky business” with professional users.

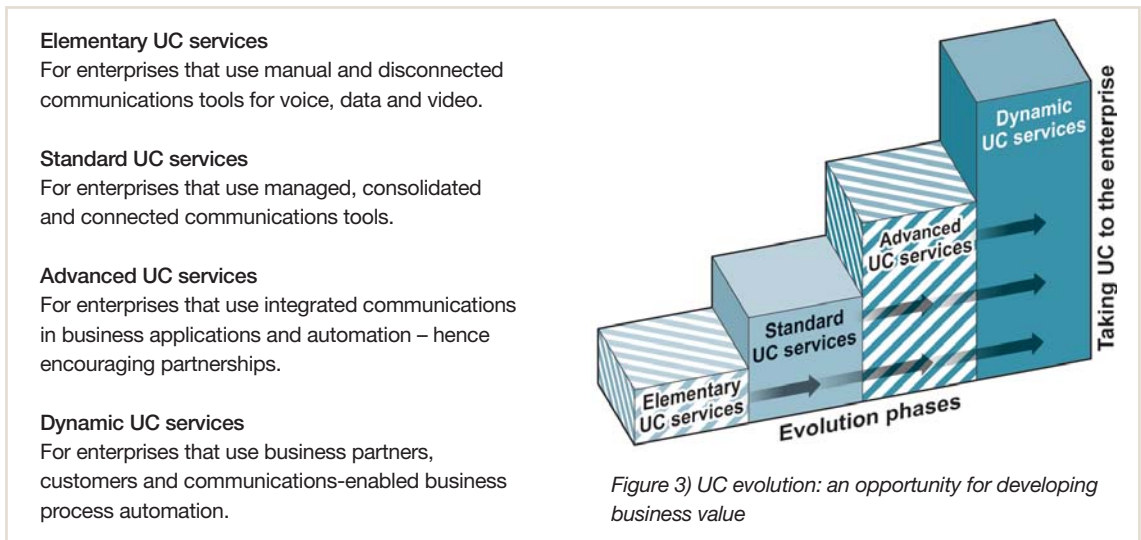
The SLA can be enhanced significantly by facilitating the creation of good enterprise business processes, and supporting a global and local presence for enterprises. Customer portals for management can be provided,

with an option to support managed quality, capacity and security through policy and authentication services. Meanwhile, revenue can be increased by offering differing quality and by optimizing the use of on-demand bandwidth and providing higher QoS.

3.4 Service-provider positioning to support enterprise unified communications development

The different needs of enterprises present an opportunity for service providers to tailor their offerings and tap into new revenue streams by supplying holistic, customised UC

solutions. As enterprises evolve, service providers can build long-term, profitable partnerships with them as they develop their UC roadmaps.



4 Enabling unified communications services

4.1 Technical and commercial enablers

The ongoing evolution towards an all-IP-based communications network together with key technical and commercial enablers have made it possible for service providers to offer a scalable, efficient and robust network solution for all enterprises.

In the technical area the key enabler is the ongoing deployment and evolution of global mobility and third-generation (3G) wireless access services. The evolution of this 3G network provides the availability of all-IP broadband internet services for mobile devices and laptops any time, anywhere. This is achieved through widespread use of High Speed Packet Access (HSPA), femtocells for increased indoor coverage and capacity, and a path towards the introduction of access services based on Long-Term Evolution (LTE) with network speeds reaching 100Mbps.

The standardization efforts and support for IMS together with increased use of better SaaS (Software as a Service) solutions enable better integration between enterprise services and operator-managed hosted services.

Commercial enablers include lower services costs for enterprises as a result of the economies of scale offered by managed hosted services, helping to maximize business value. Enterprises are also focusing more on end-to-end solutions, global services and SLAs. Service-provider-managed internet developer communities for application developers are providing much-needed applications instead of enterprises having to do the development work themselves.

4.2 IMS architecture as an enabler with dynamic services

Internet communication services are in most cases provided on a “best effort” QoS level. This is due to the fact that so far, real-time QoS telecommunications networks have not provided an open standard for real-time multimedia services. For the first time, IMS is giving the open standard to service providers, which in turn gain the control and manageability they need through the QoS and application-level control features now offered. IMS also enables service providers to maintain ownership of end users in an otherwise internet-based world of communication.

IMS services are application- or service-centric, and enable a service provider to offer managed services with QoS and support for the anchoring of mobile applications through mobility between networks. Service providers

will have to ensure that the UC solutions they offer work with existing enterprise infrastructure and services through PBX plug-ins. IMS also provides an opportunity for service providers to “open up” their networks to application developer companies.

An active, open developer-community can employ IMS as an enabler. The crowd-sourcing technique is a popular way of selecting new services needed for business professionals. Support for service creation, delivery and deployment is also needed. These are services that should be offered by service providers. Network and device providers will have to add their support. Service providers will have an opportunity to provide content and enterprise applications, informing and preparing their customers and partners.

4.3 End-to-end solutions

The solutions provided by UC services need to meet end-to-end requirements since location and mobility support as well as different user categories will have to be accommodated. To enable this, there must be support for policy requests – for example,

in the form of video conference calls to get the necessary throughput and QoS from the network when required. Business professionals may also need to use a public internet service in parallel with an enterprise IMS application.

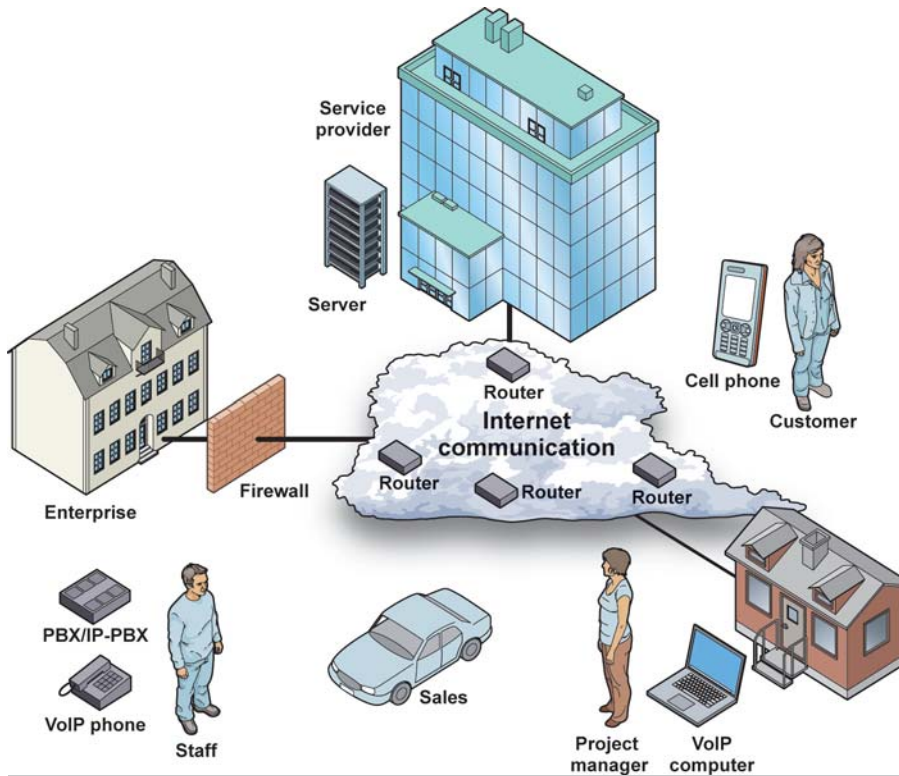


Figure 4) End-to-end solutions support in a service provider network

4.4 Global presence

The enterprises of today must support communication services with both a local and global view. Dynamic-organization techniques are a must for a local company to be successful globally. Many enterprises today are anchoring most of their services to the enterprise network and using wide-area wireless services from mobile-service providers to support mobile users.

Globalization will put more demands on

enterprises to get access to worldwide support. Further introduction of IMS services with mobile support will provide more opportunities for service providers to fully serve enterprise needs. This, together with better integration with enterprise web services, will reduce the dependence on customer-premises-equipment- (CPE-) centric solutions.

4.5 Service provider checklist

The following areas are important to be aware of for mobility and UC services:

- ❖ Global reach – the need for global reach solutions including key partners is a requirement to place on an equipment provider to ensure they are safe choices.
- ❖ Application developers – preferably, a developer community and tools should be available to assist service providers in an ecosystem environment. This is necessary to reduce the need for in-house application development by the enterprise itself. Mechanisms to manage applications and content should also be provided.
- ❖ Mobile multimedia service capabilities – service providers will become application- or service-centric. Mobile multimedia services will be provided with any necessary network and quality support without requiring end-user interference. The network services provided will include resource and policy control to offer business professionals a rich experience while accessing the services. Service providers will also increase their differentiation levels by focusing on the needs of enterprise community groups.

5 Conclusion – mobility and unified communications to change the way enterprises interact

Network-based UC services offering mobility and security are required if enterprises are to get the full benefits from them. IMS provides flexibility and offers quality control, plus the security and authentication required to address the needs of enterprise customers effectively.

No single solution can be expected to provide everything. A step-by-step evolution of UC services will take place over the next couple of years, along with the introduction of more IMS services. The opportunities offered by mobility and UC services based on IMS will allow enterprises to focus more on their strategic internal business needs. It will also help to maximize enterprises' business value by evolving their networks, providing connectivity and security, optimizing service levels, and harnessing mobility-supported hosted services for their communication needs.

In turn, this will allow service providers to:

- ❖ become application- or service-centric by offering content and applications that improve their service offering to enterprises;
- ❖ tap into additional revenue streams from new enterprise services;
- ❖ sell more services by maximizing business professionals' experience, supporting the role of services for business as well as personal use, and enhancing the SLA per individual user;
- ❖ increase customer loyalty;
- ❖ offer an opportunity for enterprise customers to become dynamic by providing mobility and UC services.

As global mobility for UC services becomes increasingly important, mobile-service providers have a unique window of opportunity to provide these services.

6 Glossary

3G:	Third generation of radio technology for wireless networks, telephones and other devices (narrowband digital radio is the second generation of technology)
CPE:	Customer premises equipment
CRM:	Customer relationship management
ERP:	Enterprise resource planning
HSPA:	High Speed Packet Access, a 3G standard for high-speed wireless data access
IMS:	IP Multimedia Subsystem
LTE:	Long-Term Evolution, a working group within 3GPP focused on future upgrades to the 3G standards to provide a drastic improvement in wireless data speed
PBX:	Private Branch eXchange
QoS:	Quality of service
SaaS:	Software as a Service, a common term for hosted and managed services
SLA:	Service level agreement
UC:	Unified communications (services)

7 References

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